SOA Governance

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Governance?

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Governance

Governance overview

- A decision-making and accountability framework for IT resources
- A governance council decides:
  - The framework for **decision-making**
  - How to **allocate responsibility** across the organisation
  - **Processes** involved in making decisions
  - **Metrics** for monitoring the effectiveness of the organization
- Aims to provide visibility and control as well as a clear decision making process
- Governance is not the management of IT
  - but setting the right framework for IT management

SOA governance

- Typical pre-SOA organizations have IT assets that are tightly coupled to **business units** not **business function**
- SOA governance is particularly important because:
    - SOA requires a clear **architecture**
    - SOA Processes should be based on **domains** and not business units
    - SOA requires a clearly defined **funding model** that allows business services to be used and allocates cost effectively

SOA and IT Governance

- SOA Governance = "IT Governance v2"
  - SOA Governance is not governance of SOA… it is IT Governance rewritten with Service Oriented thinking
- SOA is Enterprise Architecture
  - Formalised
  - Simplified
  - Structured
- The Governance depends on the architecture and therefore must match that architecture

Governance of SOA is vital

- Service Oriented systems have plenty of complexity:
  - Distributed computing
  - Typically XML based
  - Heterogeneous systems
- Also more powerful
  - Wider connectivity
  - Often involves opening up tightly coupled systems and working cross-organization
- Governance is vital to ensure policies are properly implemented and enforced
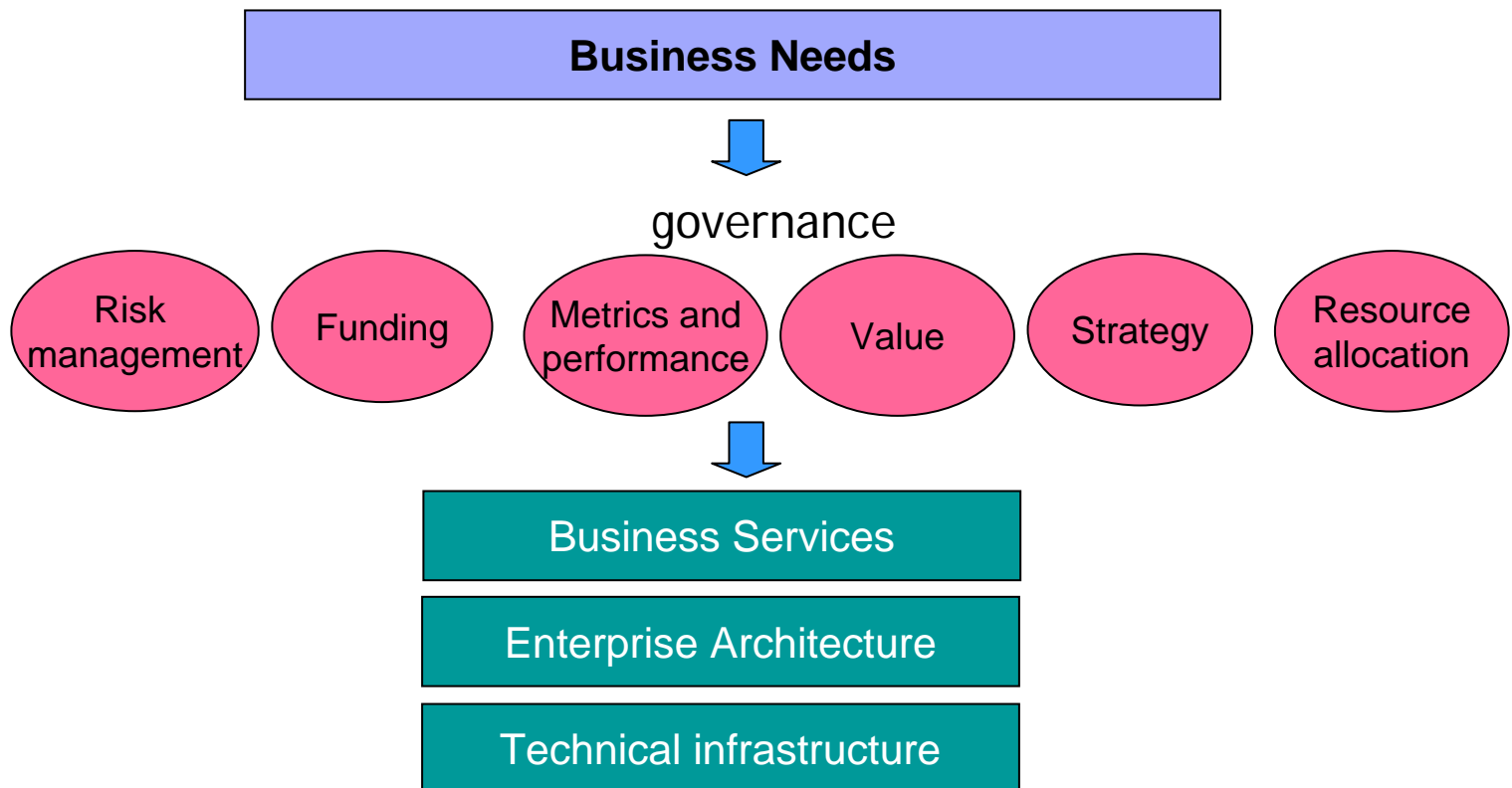
SOA "challenges"

- The SOA bunfight:
  - Interdepartmental rivalry becomes rewritten
  - Lack of clear responsibilities and domain ownership
  - Rival groups fighting for ownership of domains or business services

- The SOA vicious circle:
  - Current funding models are based on BUs
  - No incentive for a BU to make services available to a wider audience
  - Service initiatives cannot get funded

- The SOA bandwagon:
  - Everyone is "fully committed" to SOA
  - Plenty of "SOA initiatives" to make the current infrastructure "SOA-enabled"
    - but no real changes to structure, processes or architecture

SOA governance framework

Business Needs

governance

Risk management

Funding

Metrics and performance

Value

Strategy

Resource allocation

Business Services

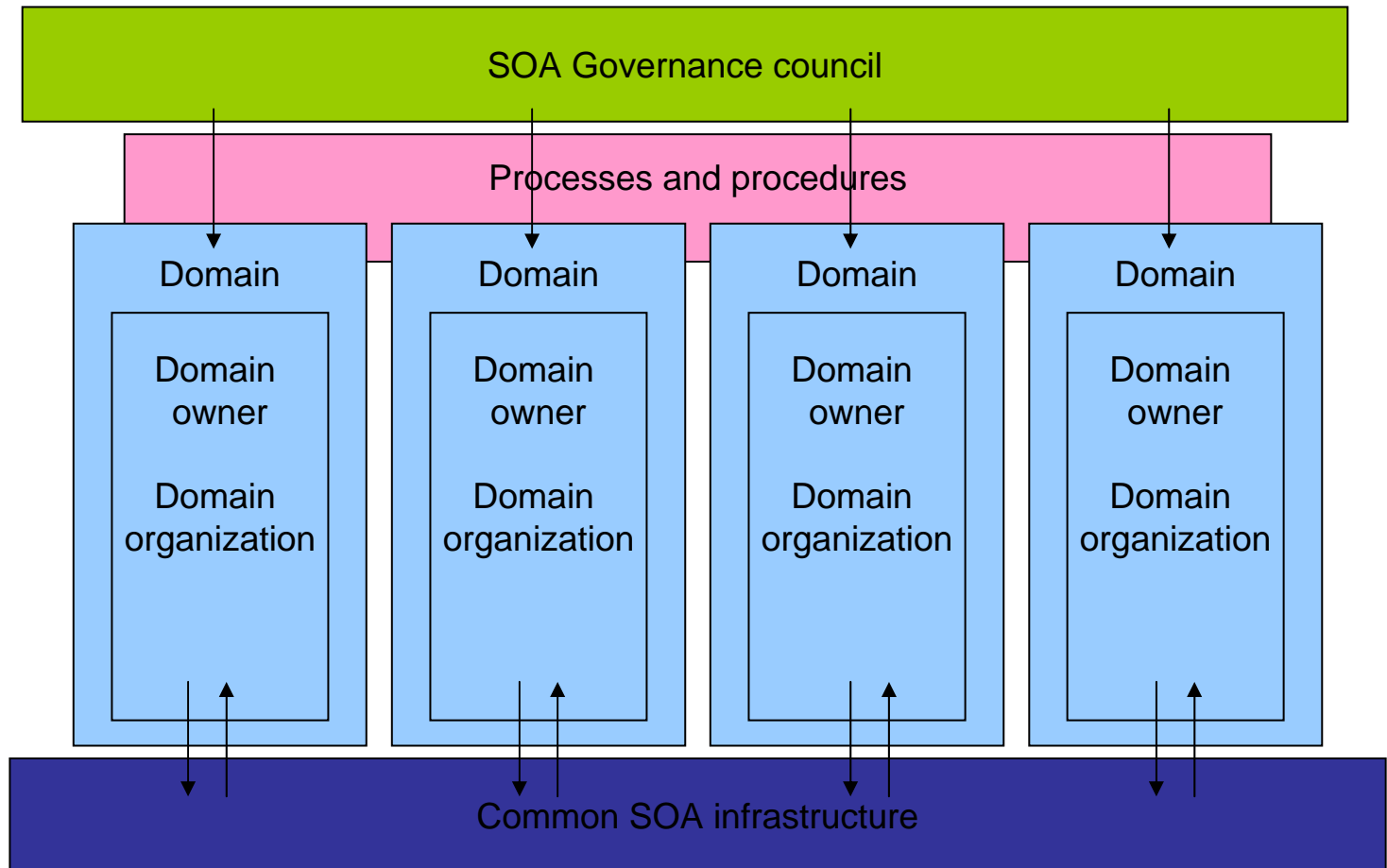Enterprise Architecture

Technical infrastructure

SOA Governance Models

- Governance should focus on:
  - Aligning IT with business strategy
  - Delivering value
  - Measuring and monitoring performance
  - Assigning resources
  - Risk management

A typical governance structure

SOA Governance council

Processes and procedures

Domain	Domain	Domain	Domain
Domain owner Domain organization	Domain owner Domain organization	Domain owner Domain organization	Domain owner Domain organization

Common SOA infrastructure

Domains

- In order to govern a SOA, it needs to be split into domains
- Each domain contains a set of services that relate to the same business area and share some business context
  - For example customer management, purchasing, order processing, logistics
- Each domain manages and owns those services:
  - Service management and availability
  - Business Logic encapsulation
  - Service usage metrics
  - Location independence and service publication
  - Data and message formats

Models for domain management and governance

- The domain owner(s), for example
  - A single domain owner or
  - one Business and one IT leader
    - Represent the business needs to the domain team
- Domain modeler(s)
  - Identifies and models business services
  - Creates abstract service and data definitions
- Domain developer(s)
  - Works with the modeler to implement the services
- Domain tester(s)
  - Certifies that the services work and meet the overall requirements, including SLAs
  - We recommend test-driven development, which means that individual functional tests will be done by the developers

IEEE Definition of Architecture

- *The fundamental organization of a system...*
- *...embodied by its components, their relationships to each other...*
- *...and to the environment...*
- *...and the principles guiding it's design...*
- *...and evolution..."*

Decomposing IEEE Definition

- *The fundamental organization of a system...*
    - Organization of a System, Not The System Itself
- *...embodied by its components, their relationships to each other...*
    - Components of System and Their Relationships
- *...and to the environment...*
    - Most Important Part
    - Environment = Users and Everything They Do With Technology
    - The Business is Part of the Architecture
- *...and the principles guiding it's design...*
    - Best Practices (end point!)
- *...and evolution..."*
    - Architecture Definition Allows For...No...Requires Change!

Enterprise Architect's Role

- **Communicator**
    - The Ultimate Translator Between IT and Business
        - Translates Ill-defined, Dynamic Requirements To Services
        - Abstract IT to Business and Business to IT

- **Simplifier**
    - The Ultimate Distiller
        - Complex Business World to Easily Understood Services, Processes and Metadata
        - Complex IT World to Reusable Services and Contracts to Meet Change Business Requirements.

- **Evolutionist**
    - Always Looking to the Future
        - Encapsulates Dynamic Requirements Into Metadata
        - Maintain The Evolving Set of Services – Change Management

- **Economic Magician**
    - Leverages Existing Investments
    - Aligns Business Users To Strategic Thinking
    - Focuses IT On Prudent Solution Approaches

- **Pragmatist**
    - Realistic, Stepwise Improvements to Business Use of IT

- **Best Practices Leader**
    - Mature Leader Adopting Best Practices for Organization Not The Latest Technology or The Acronym of The Week!

"For over 17 years, ISS has been assisting clients transform their IT departments into agile, responsive organizations that successfully deliver high quality business-aligned solutions on time and on budget... meeting or exceeding customer expectations."

The New Business Analyst

- Business Analyst - Interacts With Technology Without Knowing The Underlying Complexity

- Business Analyst Have Critical Roles in Future Services Oriented Applications

- Business Analyst Complements (Short-term SOA) The Enterprise Architect (Long-term SOA)

  - Analyze Business Requirements and Configured Systems to do What Business Needs

  - Business Analyst combine and recombine Services to meet business change.

  - Business Analyst is Responsible for Fulfilling the Business-side Terms of the Contractual Relationship

Service Oriented Organization

- SOA will dramatically affect how IT is organized
- Service Orientation mandates Shared Services
- Business-centric services are not IT centric Silos
  - No Portal Manager….Customer Services Manager, etc.
- Rigid Hierarchies….to Flattened Organizations.
  - Not The End of Hierarchies, just flattening
- SOA Centralized On Three (3) Lines of Control:
  - Senior LOB create **policy** and SOA **Governance**
  - Service Domain Managers **coordinating** the use of services
  - SOA Architects providing **oversight** of the implementation

Common Service Infrastructure

A well designed SOA infrastructure can have a huge impact on governance by:

- Enforcing policies (e.g. corporate security policies)
- Automating processes around the lifecycle of services
  - creation, approval, publication, etc
- Capturing metrics, monitoring usage, valuation, supporting chargebacks

Enterprise Service Bus concept

- The ESB is a key model for SOA governance:
  - An ESB is a system for connecting, managing and transforming service interactions
  - Every service interaction should be potentially intercepted by the ESB to support governance
  - The ESB should be driven by global policies
  - The ESB isn't magic – usually it is implemented by one or more brokers that efficiently route and validate service interactions

Service Registry

- A registry is a key component for governance:
  - All services should be published
  - The registry should implement simple processes for staging and publishing services – that match the governance model
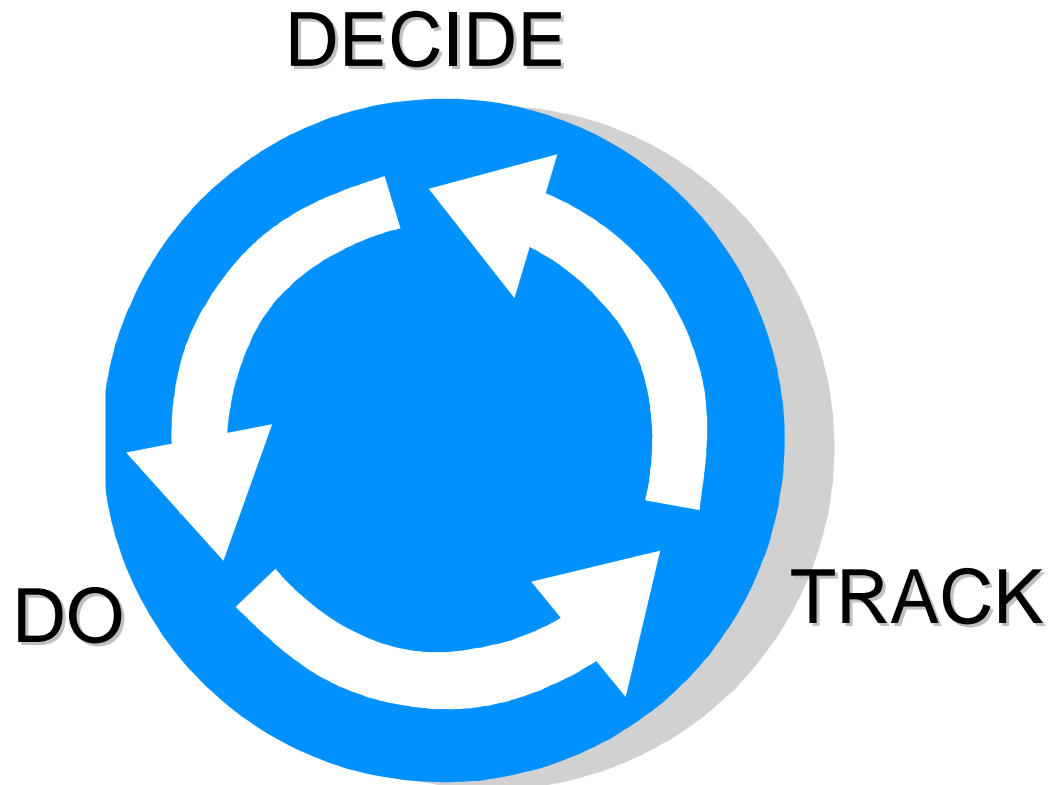 - Registry should also contain the policies applicable for each service

Key decisions

- Membership and rules of the Governance council?

- The segmentation of Business Domains?

- The organizational structure of a domain

- What are the decision-making processes?

- How will value be measured?

- What organization-wide policies and processes should be in place?

A simple governance lifecycle

DECIDE

DO

TRACK

Lifecycle

- Decide
    - Processes
    - Organizational structure
    - Measurement criteria

- Do
    - Put in place the governance model

- Track
    - Service usage
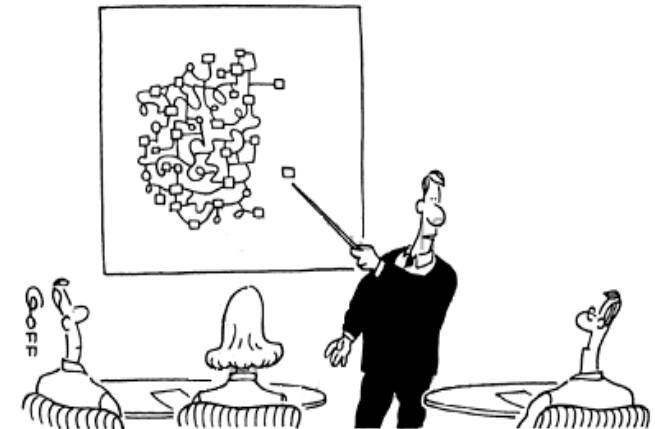   - Value and ROI
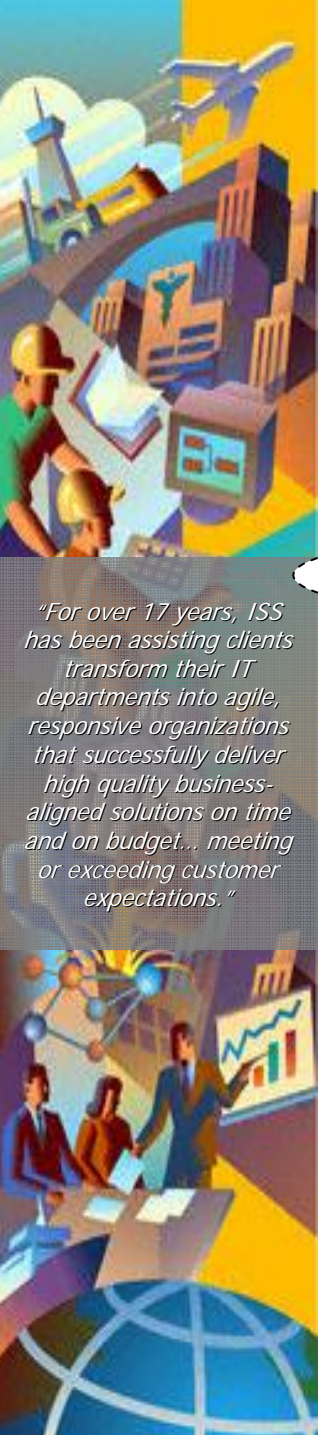   - Adherence to policies
    - Service level agreements

ITERATE

Federated Organizations...

- Are a fact of life – especially in government
- Governance model has to be built around it

"And Frank, you'll be here, in charge of thinking up a better organizational arrangement."
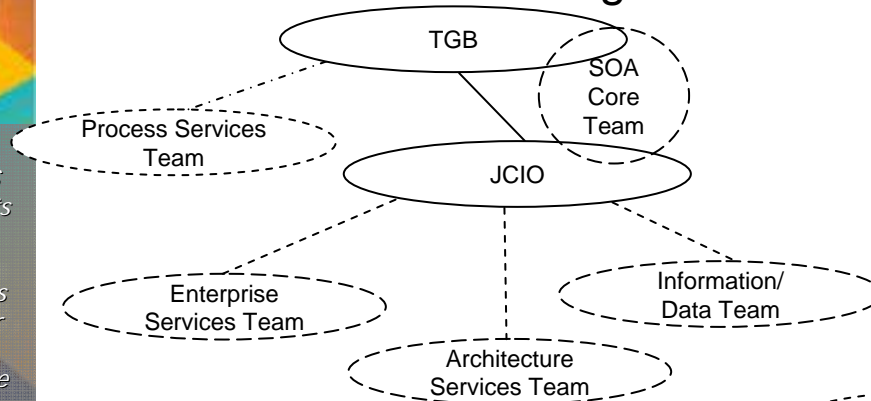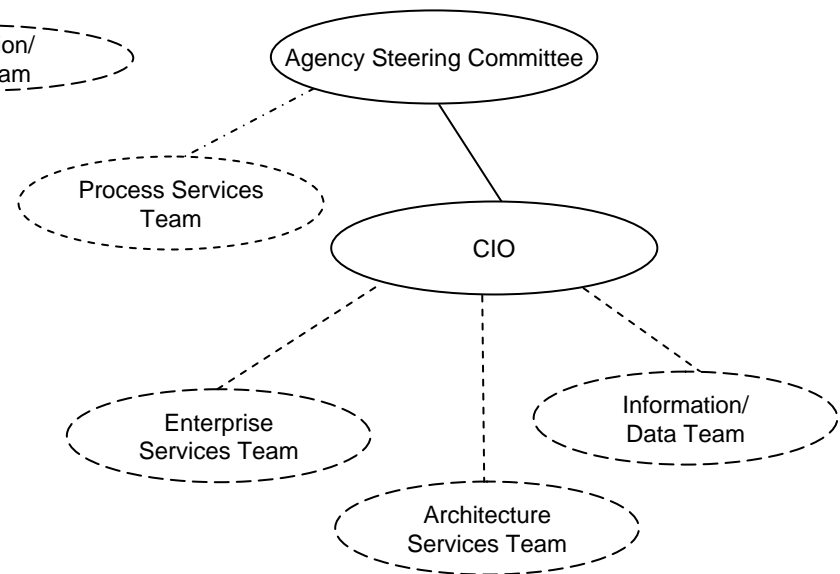
Governance From A Federated Perspective

State-wide Oversight

Agency Oversight

TGB

SOA Core Team

Process Services Team

JCIO

Enterprise Services Team

Information/ Data Team

Architecture Services Team

Agency Steering Committee

Process Services Team

CIO

Enterprise Services Team

Information/ Data Team

Architecture Services Team

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SOA Governance

- Key "take-home" points

    - Governance of IT based on **SOA principles**
    - SOA is inherently wider, more devolved and more loosely coupled
        - Governance is more important than ever
    - SOA Governance is about building the right organization models
        - But technology can help implement and monitor policies

Exercise

STOP **Workshop/Hands On**

What are the domains in your organization?
What governance model do you have already?
How are your project teams structured?

Questions?